

## **Discussion on "Test Results of LANL/AAA Spoke Cavities" by Tsuyoshi Tajima**

The main discussion on the LANL test results was related to the surprisingly high losses in the cavity. Shepard, Delayen and Pagani all saw clear indications of localized losses in the various tested setups that all seem to be related to the large coupler ports attached to the spoke resonator. The predicted losses in the stainless steel outer conductor and the flanges used can not explain these losses. They most likely are coming from the RF-joints, where either the stainless steel outer conductor (with a copper gasket), or the reactor grade niobium flanges (with indium) are attached to the coupler port. A step in the  $R_s$  over  $1/T$  curve at  $1/T=0.3$  coincides with the  $T_c$  value for indium. Krawczyk will take a closer look at the RF-joint itself.

Tajima explained that beyond the 100 degree Celsius bake-out, no higher temperature heat treatment is planned.

Tajima had pointed out in his presentation that there was a clear difference in processing time between the ANL and LANL cavities tested at LANL. While the ANL cavities consistently needed less than 30 minutes of processing before the power could be increased to higher levels, the LANL cavities consistently needed many hours. Shepard answered that this is not a well understood behavior, also at ANL. They experienced processing from 15-20 minutes up to 20 hours for the same type of geometry. There is work in this area that needs to be done.